**AMENDMENTS TO THE CLAIMS:**

**Please add new claim 38:**

1. (Previously Presented) A method of thermally treating a magnetic layer of a wafer, comprising:

annealing, for a predetermined short duration, a magnetic layer of a single wafer; and

applying at least one local magnetic field to said magnetic layer obtained without making electrical contact to the wafer.

2. (Previously Presented) The method of claim 1, wherein said annealing comprises:

heating an entirety of said single wafer.

3. (Previously Presented) The method of claim 1, wherein said annealing comprises:

heating a local area on the single wafer.

4. (Previously Presented) The method of claim 1, wherein said annealing comprises:

heating said magnetic layer within a range of about 300 to about 500 degrees C.

5. (Previously Presented) The method of claim 1, wherein said annealing comprises:

heating said magnetic layer for a duration within a range of about 1 second to about 60 seconds in the presence of a magnetic field.

6. (Previously Presented) The method of claim 1, wherein said annealing comprises:

annealing by one of a flash lamp, a laser, a flashlight, a focused heat lamp, and a rapid

thermal anneal (RTA) lamp.

7. (Previously Presented) The method of claim 1,

wherein said applying a magnetic field to said magnetic layer is conducted after said annealing.

8. (Previously Presented) The method of claim 7, wherein said applying is performed to align a pinning of the magnetic layer.

9. (Previously Presented) The method of claim 3, wherein said annealing comprises annealing a desired spot on the single wafer, said method further comprising:

performing one of a spot-to-spot processing and a line-to-line processing.

10. (Previously Presented) The method of claim 1, further comprising:

applying local fields in different directions to different areas of the single wafer.

11. (Previously Presented) A method for processing a magnetic stack, comprising:

annealing a single wafer having a magnetic stack formed thereon, with a predetermined fast anneal in a presence of a magnetic field; and

applying at least one local magnetic field to said magnetic layer, said local magnetic field being generated without electrical wires on the wafer.

12. (Previously Presented) The method of claim 11, further comprising:

cooling the single wafer by at least one of cooling liquid, helium, nitrogen, argon, and

a vacuum.

13. (Previously Presented) The method of claim 11, further comprising:

annealing only portions of the single wafer at a time.

14. (Previously Presented) The method of claim 11, further comprising:

changing a direction of an applied magnetic field point-by-point.

15. (Previously Presented) A method for processing a magnetic stack, comprising:

annealing a single wafer having a magnetic stack formed thereon, with a predetermined fast anneal in a presence of a magnetic field; and

annealing multiple separate locations at the same time.

16. (Previously Presented) The method of claim 11, further comprising:

rotating the single wafer and annealing another area of the single wafer in a different direction.

17. (Previously Presented) The method of claim 11, further comprising:

rotating the field and annealing another area of the single wafer in a different direction.

18-25. (Canceled)

26. (Previously Presented) The method of claim 11, further comprising:

cooling only portions of the single wafer.

27. (Canceled)

28. (Previously Presented) The method of claim 1, further comprising:

cooling the single wafer by at least one of cooling liquid, helium, nitrogen, argon, and a vacuum.

29. (Previously Presented) The method of claim 1, further comprising:

annealing only portions of the single wafer at a time.

30. (Previously Presented) The method of claim 1, further comprising:

changing a direction of the local magnetic field point-by-point.

31. (Previously Presented) The method of claim 1, further comprising:

annealing multiple separate locations at the same time.

32. (Previously Presented) The method of claim 1, further comprising:

rotating the single wafer and annealing another area of the single wafer in a different direction.

33. (Previously Presented) The method of claim 1, further comprising:

rotating the field and annealing another area of the single wafer in a different direction.

34. (Previously Presented) The method of claim 1, further comprising:

cooling only portions of the single wafer.

35. (Previously Presented) The method of claim 1, wherein said applying at least one local magnetic field to said magnetic layer comprises applying a magnetic field to less than an entirety of said magnetic layer.

36. (Previously Presented) The method of claim 1, wherein said applying at least one local magnetic field to said magnetic layer comprises applying a magnetic field to specific portions of said magnetic layer.

37. (Previously Presented) The method of claim 1, wherein said at least one localized field is confined to a specific localized region on said magnetic layer.

38. (New) A method of thermally treating a magnetic layer of a wafer, comprising:

annealing, for a predetermined short duration, a magnetic layer of a single wafer;

applying at least one local magnetic field to said magnetic layer obtained without making electrical contact to the wafer; and

cooling the single wafer using argon,

wherein said annealing comprises heating only a local area on the single wafer at a temperature of 280 degrees C for 60 seconds in the presence of a magnetic field using a rapid thermal anneal (RTA) lamp,

wherein said applying a magnetic field to said magnetic layer is conducted after said annealing and comprises applying local fields in different directions to different areas of the single wafer, and

wherein said single wafer comprises a magnetic stack formed thereon, said magnetic stack having a structure of 50 TaN/50Ta/175PtMn/15CoFe/9Al/50Py/100TaN.